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ABSTRACT

In view of the many factors threatening the survival, health, and cognitive development of the world's disadvantaged children, both in the United States and in developing countries, the Ford Foundation has begun a new program, called Child Survival/Fair Start, to improve these children's chances. In this working paper, Fair Start's overall strategy of promoting preventive self-care and of experimenting with low-cost outreach techniques that provide basic knowledge about health, nutrition, and child care to poor households is discussed. Five community-based projects in the United States are briefly described, as are special programs on breastfeeding, and evaluation, policy analysis, dissemination, and advocacy efforts. Fair Start projects in Bangladesh, India, Indonesia, the Middle East, Nigeria, Cuba, Peru, and Brazil are also summarized. The U.S. projects are directed at high risk disadvantaged mothers and emphasize the use of a network of community helpers in the "peer-to-peer" outreach model. For the developing countries, the Fair Start strategy has three elements: (1) support for community initiatives that draw on local skills, and experiments with ways to make effective use of local resources; (2) support for the development and dissemination of information on simple, practical, and relevant preventive therapeutic measures; and (3) research to identify the causes of high levels of childhood morbidity and mortality and inadequate mental development among disadvantaged groups. (CMG)

Child Survival/Fair Start

A look at the factors threatening the survival, health, and cognitive development of the world's disadvantaged children, and at the Ford Foundation's new program to help these children get a fair start in life.

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PREFACE

Throughout the world, children suffer malnutrition, illness, delays in physical and mental development, and early death. In the developing world, one out of every four newborns dies before reaching school age; between 12 and 18 million infants and young children die each year. While levels of infant mortality and morbidity are much lower in the United States than in the developing world, children of disadvantaged groups in this country experience levels of death and illness almost comparable to those found in many developing countries. Low birth weight (less than 5 1/2 pounds) is implicated in 30 to 40 percent of all infant deaths in the U.S. While an even higher proportion of low birth weight babies die in poor countries, the major causes of infant death in the developing world are respiratory disease, diarrhea, and malnutrition.

Government health services in the developing world typically reach no more than 15 to 20 percent of the population. In the United States, federal support for health and nutrition programs is being reduced, with responsibility turned over to the States in the form of block grants. In both the U.S. and the developing world, therefore, increased emphasis must be given to the promotion of preventive self-care and to experimentation with low-cost outreach techniques that provide basic knowledge about health, nutrition, and child care to poor households.

The staff of the Ford Foundation have developed a program strategy to help ameliorate the situation of poor infants and young children around the world. Grants totaling $3.1 million have been approved in pursuit of that strategy in the United States and the developing world during FY 1982, and a like amount is projected for FY 1983. Capitalizing on the Foundation's ability to work both domestically and in the developing world, the Child Survival/Fair Start effort attempts to apply experience gained abroad to domestic problems and to apply domestic experience abroad. Strategies for delivery of primary health care and early infant stimulation pioneered in the developing world are being applied to community-based programs in pockets of poverty in the United States.

We focus on the prenatal, perinatal, and weaning-age child, and include pregnant and lactating mothers. Integrated approaches to health and mental development are emphasized, as nutrition, health, and early mental stimulation and development reinforce one another.

Five community-based demonstration programs, three urban and two rural, have been supported as the first effort under the U.S. component of the Child Survival/Fair Start program. These programs are directed to high-risk, disadvantaged mothers, with special attention given to reducing the incidence of low-birth-weight babies and the diseases of infancy, including diarrhea and pneumonia, and to promoting optimal physical and mental development. The demonstration programs emphasize the use of a network of community helpers in the so-called "peer-to-peer" outreach model, under which professionals train community women in aspects of prenatal and child care and the women then assist and educate

parents to provide such care to their children and to make appropriate use of available health and educational facilities.

Our Child Survival/Fair Start strategy in the developing world has three elements: (1) Support for community initiatives that draw on local skills, including those of traditional practitioners and midwives, and experiments with ways to make effective use of local resources; (2) Support for the development of, and the dissemination of information on, simple, practical, and relevant preventive and therapeutic measures; and (3) Research to identify the causes (social, economic, and cultural, as well as biological and ecological) of high levels of childhood morbidity and mortality, and inadequate mental development among disadvantaged groups, so that appropriate, cost-effective interventions can be selected.

The problems that are examined in this working paper are so enormous and so widespread that efforts by many individuals, many organizations, and many governments will be required to ameliorate them. We hope that this discussion will help to identify some of the areas of greatest need, some of the approaches that have worked well in the past, and some of the approaches that may work well in the future. As always, the staff of the Ford Foundation are interested in working with others who share our concern for the survival, the health, and the well-being of the children of our nation and our world.

Several Foundation staff members contributed to this working paper, notably Linda E. Atkinson, Sol Charkin (now of the Local Initiatives Support Corporation), Lincoln Chen, Oscar Harkavy, Marsha Hunter, and W. Henry Mosley.

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THE PROBLEM

Today, throughout the world, millions of children suffer severe malnutrition, inadequately treated or untreated illness, delayed or impaired cognitive development, and early death. The waste of the human potential these children represent begins early in their lives--and sometimes even before they are born.

Infant mortality has been declining in all but the poorest countries since the 1950s but it is still unacceptably high throughout most of the developing world. In poor countries, one out of every four children dies before reaching school age: a total of 12 to 18 million such deaths per year. (See Table 1, on next page.) Diarrheal diseases cause between 4 and 5 million deaths annually. In Africa alone, malaria may kill one million children each year. Among immunizable diseases, measles claims three-quarters of a million lives each year; tetanus in the newborn kills another half-million. One-quarter of the children who survive suffer malnutrition, debilitation, and sickness, each of which may result in long-term reductions in their capacity to learn, to work, and to function optimally.

Cognitive development begins in infancy, and it is thus in infancy that dramatic intellectual deficits first appear among poor children in comparison with children of the advantaged. In Chile, for instance, 78 percent of the poor children tested in an experimental project showed significant arrest in their cognitive development, while only 2 percent of a group of middle-class children showed similar signs.

While infant mortality and morbidity rates are much lower in the United States and other industrialized countries than in the developing countries, children of disadvantaged groups in these "advanced" countries experience

TABLE 1

INDICATORS OF CHILD SURVIVAL, WORLDWIDE

Type of Country	Infant (0-1 year) Mortality Rate per 1,000 Live Births 1978	Child (1-4 years) Mortality Rate per 1,000 Children 1979
Developing		
Low-Income	49 - 237*	3 - 36
Middle-Income	12 - 157	1 - 41
Oil-Exporting	39 - 92	3 - 19
Industrialized	8 - 18	1

* Numbers indicate the range within each country group from the lowest-rate country to the highest.

Source: World Development Report, 1981

levels of mortality and morbidity almost indistinguishable from those found in much of the developing world. (See Table 2, on next page.) The black infant mortality rate is twice as high as that of white infants in Washington, D.C., in Minneapolis, and in Mississippi; it is comparable to that of many developing countries (29.6 deaths per 1,000 in Washington, for example, and 30.3 per 1,000 in Malaysia). Debility and sickness levels among Native American children in Arizona, Texas, and New Mexico approach those in Bangladesh. Among such children, poor health and nutrition are often accompanied by developmental delays. For example, a group of twelve-month-old Mexican American children, at the start of a home-based program to provide them with intellectual stimulation, had an average developmental age of nine months. After six months in the program, which is supported by the Foundation, the same children, now eighteen months old, had an average developmental age of twenty-three months.

In both the industrialized and the developing world, low weight at birth (less than 5 1/2 pounds) is a specific predictor of child mortality and morbidity. Low birth weight is associated with 30 to 40 percent of all infant deaths in the United States. An even higher proportion of low-birth-weight babies die in the developing world, since the survival of such infants is dependent on sanitary conditions, postnatal nutrition, and medical care, all relatively lacking in the poor countries. In the United States, low-birth-weight babies constitute 6 percent of white newborns and 13 percent of black newborns, a statistic that has not improved measurably over the past decade. The black infant mortality rate is twice as high as that of whites.

Low-birth-weight babies, whether premature or small for gestational age, also run a greater risk of retarded intellectual and emotional

TABLE 2

INDICATORS OF CHILD SURVIVAL, UNITED STATES

Infant and Child Mortality, by Race

	Total	White	Black
Infant (0-1 year) mortality rate per 1,000 live births--1978	13.1	11.4	21.8
Child mortality rate--1976 (age-specific rates per 1,000 population)			
under 1 year	13.9	11.8	23.9
1-4 years	0.7	0.6	0.9
5-9 years	0.3	0.3	0.4
Mississippi (1978)	26.8	per 1,000 live births (all)	
Alabama (1975)	44.0	" " " "	(black)
Pickens County	6.8	" " " "	(white)
Tuscaloosa County	32.0	" " " "	(black)
	8.6	" " " "	(white)
Tennessee (1980)			
Haywood County	31.5	" " " "	(all)
Tipton County	28.2	" " " "	(all)
Morgan County	21.3	" " " "	(all)
Florida (1980)	18.4	" " " "	(non-white)
Dade County	11.0	" " " "	(white)

Sources: Monthly Vital Statistics Report and reports by state and county health departments

development. Because they are generally less active than normal infants, they tend to interact less with their parents, and because they interact less, they tend to be deprived of the early intellectual and emotional stimulation necessary for healthy mental development.

Throughout the world, the families most vulnerable to health problems are those with the lowest household incomes--usually landless laborers in rural areas, the partially employed or unemployed in urban ghettos, and disadvantaged minority groups. Families like these in the United States account for the fact that the infant mortality rate in the U.S. is higher than those of a dozen or more other countries. And this is true in spite of U.S. government health and food programs for the poor--programs now being sharply curtailed. These are the groups most vulnerable to food price inflation and with the least access to quality health care. They can be found in rural Mississippi, in New York City, on Indian reservations, in communities of undocumented migrants, and among the hills and hollows of Appalachia.

Within the most vulnerable groups, it is the youngest children who are most susceptible to nutritive, physical, and cognitive deprivations. These hazards are especially intense during the earliest stages of life: from conception through the first year.

Health and nutritional deficits, inadequate early childhood stimulation, and parental neglect have been linked to underachievement and antisocial behavior as the child grows up. Several studies, including some supported by the Ford Foundation, have shown that these deficits are linked to impaired intellectual and emotional development and, in some, to delinquent juvenile and adult behavior. These findings, and the need to prevent this continuing waste of human life and potential, offer a powerful rationale for a Foundation-supported effort to improve the life chances of the most vulnerable children.

THE FORD FOUNDATION'S ROLE

The Ford Foundation's role in this effort reflects an awareness of the activities of governments, international agencies, other foundations, and research institutions. It focuses on work with high-risk groups, and concentrates on opportunities to learn from innovative experiments. We try to select strategic locations for our work with a view to building a related set of activities that are cumulative and significant beyond their specific locations.

In the developing world, conventional public health services usually fail to reach the very ones who need them most. In a typical poor country, government health services reach no more than 15 to 20 percent of the population, and institutionalized systems to provide early mental stimulation to children are entirely absent. In the United States, the complex of federally-supported health and nutrition programs for the poor is often deficient in serving those at highest risk. Moreover, as the level of federal support for health and nutrition programs declines, these programs are being converted into block grants to the States, with substantial projected reductions in dollar amounts. Unfortunately, when funding is reduced, clinics and hospitals tend to cut their outreach services first, thereby eliminating services for those least capable of seeking out care. It is thus necessary, in both the United States and in the developing world, to increase emphasis on self-care, to increase the use of simple health, nutrition, and mental stimulation practices, and to increase the flow of benefits from existing financial and human resources. These changes offer important opportunities to experiment with outreach techniques that meet effectively the needs of those

who fall "outside the system."

Health budgets in all countries are heavily committed to the operation of hospitals and other curative services; little money is devoted to preventive care. And yet preventive care is far more cost-effective. For example, the best way to prevent the birth of premature or low-birth-weight babies is through proper prenatal maternal care, which is relatively simple and inexpensive. On the other hand, helping such babies to survive by means of intensive care in hospitals is extraordinarily expensive, and even when such care permits survival the child may be left with physical and mental impairments. This suggests the need for special emphasis both on enhancing the capacity for self-care and on simple preventive health measures.

There is a gap in knowledge use that must be bridged. Much basic knowledge exists that is not being applied. Ways must be found to translate this knowledge into action by increasing access to and use of available technology by individuals in poor households.

Both in the United States and in the developing world, the most promising interventions are likely to occur at the community level. In this country, community-based health organizations that involve local participation at both the board and management levels are often more effective in meeting the needs of the poor than are impersonal, overcrowded, understaffed public hospitals. In the developing world, the most effective interventions are often those carried out at the community/village level by local groups and nongovernmental organizations.

Foundation Strategy

The overall objective of the Ford Foundation's Child Survival/Fair Start work is to improve chances for the survival and healthy development of infants and young children in disadvantaged, low-income families. Our primary focus is on the prenatal, perinatal, and weaning-age child (from conception to three to five years old) and therefore includes pregnant and lactating mothers, with specific emphasis on the health of the pregnant teenager. In some situations, a focus on the high-risk family is the most effective way of reaching the vulnerable mother and child.

The phrase "fair start" is intended to suggest concerns beyond mere survival and including healthy development of the mind as well as the body in the early years. Because it is increasingly clear that nutrition, health, and early mental stimulation and development are closely related, Foundation staff favor integrated approaches to these issues.

To this end, staff seek to encourage innovative actions designed to increase access to, and use by poor households in the U.S. and developing countries of, available health, nutrition, and child-rearing knowledge and technology in order to improve their capacity for preventive self-care.

Table 3, "Major Obstacles to Child Survival and Optimal Development" (see next page), indicates the problems most likely to be prevalent both overseas and in the U.S. They are problems that are most severe under conditions of poverty. The interventions underscored in this table fall within the scope of Foundation-supported programs. The specific mix of interventions necessary to carry out a program will vary with particular national, cultural, and institutional situations.

Staff do not plan to pursue programs that focus exclusively on women's

TABLE 3

MAJOR OBSTACLES TO CHILD SURVIVAL AND OPTIMAL DEVELOPMENT
(Underscored interventions are to be emphasized under Child Survival/Fair Start)

	Problem	Causes	Intervention
Minus 9 months	1. Low birth weight	1.(a) Maternal disease: eclampsia, diabetes, hypertension, etc.	1.(a) Prenatal care
		(b) Maternal malnutrition	(b) Maternal nutrition education, including breast-feeding
		(c) Pregnancy before age 18, closely spaced births	(c) Access to contraception
		(d) Alcohol, smoking, drug abuse	(d) Substance-abuse education
	2. Infections (diarrhea, tetanus, respiratory)	2.(a) Lack of immunizations	2.(a) Well baby clinics, including immunization programs
		(b) Dehydration from diarrhea	(b) Oral rehydration programs
		(c) Malnutrition	(c) Family food supplementation
Birth		(d) Unsanitary water supplies	(d) Water, sanitation programs
to	3. Malnutrition	3.(a) Reduced breast-feeding	3.(a) Support for breast-feeding
		(b) Inadequate artifical feeding	(b) Nutrition education, vitamin supplementation
3 years		(c) Inappropriate weaning foods	(c) Development of inexpensive weaning foods
	4. Retarded early childhood development	4.(a) Inadequate play, language stimulation	4.(a) Child-rearing practices, preschool groups
		(b) Undetected hearing and visual losses	(b) Early detection and screening programs
		(c) Lead poisoning, other environmental toxins, head trauma	(c) State and federal clean-up programs
	5. Accidents	(a) Motor vehicle accidents	5.(a) Safety belt, car seat, driver education
		(b) Home accidents	(b) Home-safety education
		(c) Child abuse	(c) Parenting programs

health problems (except as related to pregnancy), nor on problems of school-age and older children, nor on programs of general health care. We assume that nutrition problems as connected to food policy, food distribution, and agricultural production could be considered at a later date among "efforts to strengthen policy development for rural areas," as part of the Rural Poverty and Resources theme. Finally, we do not plan to establish health services for which there would be long-term recurring costs to the Foundation, nor can we fund services provided under continuing programs even when government funding for such services has been reduced or eliminated.

Program details may differ in urban and rural communities and emphases may vary in the U.S. and in different regions of the developing world. Nonetheless, our grant actions, both in the U.S. and in developing countries, have an overall common objective: improving chances for the survival and healthy development of infants and young children in low-income, disadvantaged families.

U.S. Programs

As an initial effort under the Child Survival/Fair Start program strategy, five grants--three of them urban and two rural--were made in support of community-based demonstration programs.* These grants are described in this report beginning on page 27.

The demonstration programs, directed to high-risk, disadvantaged mothers, give special attention to reducing the incidence of low-birth-weight babies and of the often fatal diseases of infancy, such as diarrhea and

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* Staff work is being completed on a grant to a third rural program.

pneumonia, and to promoting optimal physical and mental development. They include:

--Increasing access to and use of appropriate prenatal care.

--Demonstrations to determine the conditions under which it is realistic to promote breast-feeding by modifying hospital and clinic practices and by developing community and family support mechanisms.

--Demonstrations to encourage beneficial interaction among health, nutrition, and intellectual-stimulation interventions.

Each demonstration program involves experiments with innovative approaches aimed at increasing access to and use by poor households of available health, nutrition, and child-rearing skills and technology in order to improve their capacity for self-care. Teenage parents and such disadvantaged adults as migrant farm workers are too often unfamiliar with simple child-rearing techniques, while existing health services make little effort to impart basic knowledge that would encourage new behavior. For example, in caring for their children, many disadvantaged parents overuse emergency-room facilities (if such are available) but do not know how to take a child's temperature to determine if medical--much less emergency-room--attention is required.

Another example: disadvantaged women typically obtain inadequate prenatal care because they fail to recognize the common danger signals of a problem pregnancy and, as a result, fail to bring potentially serious symptoms to the attention of physicians. According to one study of poor black women in rural Alabama, 73 percent of those studied believed either that severe headaches accompanied by swollen extremities were normal symptoms of pregnancy or that they did not indicate a potentially serious disorder. As a result,

45 percent of the women who experienced these symptoms never notified their physicians. Similarly, 70 percent of the population believed that dizziness and blurred vision were either normal, or nonserious, symptoms of pregnancy, and 48 percent of the women experiencing these symptoms failed to report them to their physicians. It was also found that the failure of many women to recognize as ordinary and benign such symptoms of pregnancy as nausea and sleepiness often led women to attribute such symptoms to their use of vitamin pills and to discontinue taking vitamins as a result.

Further, low-income women have not participated in the dramatic resurgence in breast-feeding seen among middle- and upper-income groups. Health advantages from breast-feeding include optimal nutrition for infant growth and development and immunological protection against allergy and infection. A recent study shows that an infant assumes a sixteen-times-greater risk of significant illness by the age of two months if not breast-fed. Breast-feeding protects against respiratory, gastrointestinal, and ear infections, and may reduce the risk of such major problems as inflammatory disorders of the bowel. At the same time, there is need for better understanding of the tensions and trade-offs between what is best for the baby and what is feasible for the teenage mother who must return to the classroom soon after delivery or for the working mother with inadequate maternal leave or creche facilities at her workplace.

Foundation-funded experiments addressing these basic child-rearing and self-care issues will rely on an intervention strategy that has proven effective in developing world community health programs as well as in some experiments in the United States. The strategy involves the creation and use of a network of community helpers--the so-called "peer-to-peer" outreach

model. Professionals train community women in aspects of prenatal and child care, and these women then teach parents how to provide such care to their children and how to make appropriate use of available health and educational facilities. This use of "helpers" who are trusted members of the community should result in more sensitivity in adapting new practices to local reality and has the potential for long-term reinforcement at very modest cost after Foundation funding has terminated.

Evaluation and Dissemination. So that the effectiveness of the demonstration programs can be determined, each project developed under Child Survival/Fair Start will include an appropriate evaluation and dissemination component. In addition, a grant has been made to permit the High Scope Research Foundation to assist project personnel in evaluating their work, cumulating their findings, and disseminating results to decision makers.

High Scope, a nonprofit research and development organization, is best known for its longitudinal research to determine the effects of quality preschool education on children at risk of academic failure. It has also been involved in both the implementation and the evaluation of a variety of projects aimed at the disadvantaged child and directly related to the proposed evaluation. High Scope has developed, for example, a "parent-to-parent" home-visiting program that provides support to parents as they learn child-rearing skills during the child's early years.

As state and local governments assume a growing role in health, nutrition, and early-childhood education assistance, High Scope will identify and strengthen links to relevant professional bodies and will disseminate results of the demonstration programs to state and local officials. It is

expected that lessons learned from these programs will help such officials modify large-scale programs to improve their effectiveness in serving disadvantaged children and their parents.

* * * *

The major portion of the Child Survival/Fair Start allocation for FY 1982-83 is devoted to support of community-based demonstration programs. A number of related activities also have been undertaken, including experiments in which hospital and clinic practices are amended to encourage breast-feeding and in which follow-up support is provided to encourage the mother to continue nursing after she returns home from the hospital. Support also has been provided for selected programs of analysis, dissemination, and advocacy to affect state and national policy on issues of child survival. (See page 36 ff.)

Future Plans. The programs described above that aim to test ways of helping disadvantaged mothers make better use of available knowledge about health and nutrition and to strengthen their child-rearing skills through the peer-to-peer outreach model will account for most of the Foundation's domestic Child Survival/Fair Start activities throughout most of 1983. Since the Foundation-supported experiments currently underway are scheduled to run for two to three years, it will be some time before decisions to replicate, modify, or abandon these models can be made.

In the meantime, other approaches to the troublesome problem of high-risk birth weight will be explored. The major problems contributing to two-thirds of the infant deaths during the first week of life is low birth weight, which results both from premature births and from fetal growth retardation. Much of the reduction of infant deaths in the United States in

recent years is attributable to intensive medical care in premature-infant nurseries. This approach, while life-saving, is expensive (often $50,000 to $100,000 per child). It also separates parents from their infants for weeks or even months, thus preventing the development of normal bonding. Sweden and other Western European countries, by contrast, have lower infant mortality rates than the United States because a smaller proportion of low-birth-weight babies are born in those countries. Considering the costs of medical care and the relative lack of resources in the developing world, it is important to examine more closely the maternal factors leading to low-birth-weight babies to achieve more appropriate and less expensive management and intervention.

For example, support is being considered for projects examining maternal risk factors for low birth weight in cities with high infant mortality rates. These projects will determine the factors most often associated with low birth weight, such as smoking, substance abuse, hypertension, infection, and poor nutrition, and measure the extent to which the incidence of low birth weight can be reduced by the early identification and management of these factors.

Strengthening early infant-parent interaction has become a valued approach to alleviating the problems of delayed infant development and later of child abuse. Rigorous data to demonstrate the success of specific interventions to strengthen parent/child interaction, however, are lacking. The Child Survival/Fair Start program is thus considering studies to determine how much and what kind of interactions will have an impact over the long run.

Health, nutritional, and developmental deficits among the most disadvantaged may well be exacerbated by cutbacks in federal programs. We are prepared to assist efforts to monitor changes in policy and their effects on indices of children's health and welfare.

Developing Country Programs

Context and Rationale for Foundation Involvement. Just as in the domestic component of this work, the overall objective of the Foundation's program for the developing world is improvement in the survival rate and in the early physical and mental development of children. Because lower levels of infant and child mortality are broadly associated with higher economic indicators, many development planners have assumed that the health of the most disadvantaged people automatically benefits from overall economic development and thus does not require special attention. Mounting evidence in recent years indicates, however, that economic development does not necessarily result in improved child survival. Moreover, in some developing countries--and particularly in urban slums--infant mortality is actually rising despite a rise in per capita income.

To understand how significant improvements in child survival can be achieved even in poor countries, it is helpful to consider the diseases that cause infant and juvenile deaths, the technologies and the knowledge available to tackle these diseases, and the institutional constraints on the wider dissemination and use of these technologies. These perspectives--epidemiological, technological, and institutional--help define the problem and suggest a strategy for intervention.

Epidemiologically, the social and economic conditions leading to child deaths ultimately operate through three biological processes: infection, malnutrition, and injury. Among these are a few specific conditions that contribute to the vast majority of deaths: acute diarrhea, acute respiratory infection, measles, whooping cough, tetanus of the newborn, malaria (mainly in

Africa), malnutrition, and birth trauma. Similarly, the habits and practices of child-rearing have a direct effect on the intellectual and emotional development of children. Inadequate and inappropriate treatment by parents produces children with underdeveloped cognitive skills and with emotional disorders. Traditional child-rearing is directed toward control of the child rather than toward his or her mental stimulation.

Technologically, there are simple but effective means of dealing with most of these conditions: oral rehydration therapy for diarrhea; penicillin for acute respiratory illnesses; vaccines for measles, whooping cough, and tetanus; prophylaxis and treatment for malaria; weight charts with simple dietary instruction for malnutrition; midwifery education for childbirth; proper mental stimulation to promote proper intellectual and emotional development. In addition, a few basic hygienic practices reduce the risk of exposure to infections.

The gap between technology and access by the population results from institutional and social factors: specifically, the organization of the medical and related health professions, the structure of health-care systems, and child-rearing practices. In brief, the modern (Western) health system stresses cure rather than prevention, centralization rather than popular access, hospital-oriented medical training, and "professionalism" that may restrict access to knowledge and technology by the general public. While these features and factors characterize the mainstream of Western medicine, there is now a nascent but growing movement among both some medical professionals and some nonprofessionals to transform the system. The central concept of this movement is participation and control by families and the community in providing their own health care; as a result of it, many

nongovernmental organizations and some governments have begun to initiate health-care programs using community-level health workers. In a few instances, medical schools are adapting to a community-based, problem-solving orientation. At present, however, most of these initiatives are scattered and lack coherent force. Furthermore, while the community approach requires the professional and technical backup of the health system, such is generally not forthcoming and often is resisted by health professionals.

This emphasis on the community fits well with the Foundation's work in urban and rural poverty. Opportunities exist to help families and communities help themselves to improved health, nutrition, and mental stimulation for their children. The Foundation can support their needs in the development process through a program that (1) builds up from the community to facilitate initiatives that will encourage families to solve their own problems and (2) draws in the health professions, helping them appreciate the scope and magnitude of the problem and the need for participation by those professions in the solutions.

Strategy. Our general strategy for work in the Child Survival/Fair Start field in the developing world has three key elements:

--Support for community initiatives that will provide lessons and guidance on: (a) how to develop local leadership; (b) how to draw on local skills, including those of indigenous practitioners and midwives; (c) how to use local resources effectively; for example, how to use salt and sugar for oral rehydration, local vegetables to prevent Vitamin A deficiency, or local food for infant diet supplementation; (d) how to organize people to demand better services from the existing health systems and to improve those systems;

(e) how to make health messages relevant to and acceptable in the local situation; (f) how to foster efforts to redirect child-rearing practices toward more effective mental stimulation. Because the objective of these activities is a reduction in child death and an improvement in early development, all such programs will be accompanied by a careful assessment of their impact.

--Support for the development of, and the dissemination of information on, simple, practical, effective, and relevant preventive and therapeutic measures directed at significant health and intellectual development problems, measures that can be implemented at the community level by families or by grass-roots level health workers. Examples include: adapting oral rehydration techniques to maximize acceptability in different situations; promoting appropriate maternal diets during pregnancy and lactation; promoting acceptable local food supplements and weaning foods for infants; and encouraging simple practices that provide appropriate mental stimulation to infants and young children.

--Epidemiological research on the causes (social, economic, and cultural as well as biological and ecological) of high morbidity and mortality and of insufficient cognitive development among infants and young children. This should encompass an assessment of beliefs, values, and attitudes determining the demand for and use of traditional and modern health service systems. This research will of necessity be multidisciplinary and should be designed to define the dynamics of the processes contributing to disease and death as well as the relative contribution to morbidity and mortality of ecological, social, economic, and other factors. The goal of this activity would be to influence both policy and action, providing a basis for devising

and implementing effective and relevant strategies at the household and community level in the local situation, and reorienting the health profession to reshape health policy by defining the nature and magnitude of the problems of child morbidity and mortality in the community.

Linkage Activities

Capitalizing on the Foundation's ability to work effectively both domestically and in the developing world, the Child Survival/Fair Start effort seeks to apply experience gained abroad to domestic problems, and to apply domestic experience abroad. Lessons from primary health care delivery in the developing world are relevant to programs for disadvantaged populations in the United States. The flow of useful knowledge between the industrialized and the developing countries is by no means one-way. In fact, some aspects of Western medicine are inappropriate for the Third World, and some strategies pioneered in developing countries deserve more attention in the United States.

For example, the primary health care model featuring paraprofessional health workers who provide information and services to hard-to-reach families, found extensively in the developing world, can be adapted for application to community-based programs in pockets of poverty in the United States. Recent Foundation grants have begun to support such interchange. A home visiting program directed toward the health and the mental development of Mexican American children in East Austin, Texas, was organized by a former Foundation education advisor; it was based on successful experiments in Latin America. Further, a comparative study of the constraints to breast-feeding experienced by mothers in municipal hospitals in Sao Paulo, Brazil, and New York City has been funded in the expectation that lessons learned in one community might

be applied to the other.

Workshops, conferences, policy analyses, and research (all to involve U.S. and overseas participants) are planned to address issues that cross and transcend disciplinary and professional boundaries, including such topics as child survival trends and changes, the financing of recurrent program costs, problems of technology application, and factors in prenatal care that decrease the incidence of low birth weight. For example, a conference bringing together epidemiologists and demographers from the developing and industrial worlds to encourage joint efforts to analyze problems of child survival will receive Ford and Rockefeller Foundation funding.

MAJOR ACTIONS UNDER CHILD SURVIVAL/A FAIR START FOR CHILDREN, U.S. AND INTERNATIONAL AFFAIRS PROGRAMS, FY 1982

The balance of this report is a summary of the major actions of the Ford Foundation in FY 1982 under its Child Survival/Fair Start for Children program. The following six organizations received Foundation grants for work on community-based demonstration programs in the United States.

Community-based Demonstration Programs

Vanderbilt University. The Vanderbilt University Center for Health Services has developed links with community groups and associations of community-based health-care providers in pockets of poverty throughout the Appalachian region. The center will recruit, train, coordinate, and evaluate maternal- and child-health outreach workers in four communities in West Tennessee, West Virginia, Eastern Kentucky, and East Tennessee. The outreach workers will make home visits to pregnant women--especially those at risk for problem pregnancies or those who otherwise would not receive prenatal care--and to families with infants under the age of one. They will assess the health status of mother and child, make referrals for appropriate medical care, if necessary, and work to improve the mother's own knowledge about the health care of her children and of herself. An estimated 480 families will be directly served by the program. In addition, the outreach workers will identify and train community residents as "natural helpers" who can serve as advocates and facilitators to continue the work begun within the families and the communities.

The Foundation's three-year commitment will give the center and the communities time to organize and implement the program and to demonstrate its utility. The center plans to assist the communities in obtaining funding for the program after the initial grant.

The center hopes to accomplish the following objectives as a result of its maternal and infant outreach worker program: improvement of pregnancy outcomes; reductions in the number of low-weight births; reductions in neonatal mortality; improved development of infants as measured by standard screening tests. These gains will be measured against baseline data for each community collected from initial family interviews.

Redlands Christian Migrant Association (RCMA). The RCMA maintains thirty-two child-care centers for migrant farm workers throughout Florida. This Foundation-assisted project will be based in three labor camps in the Homestead region south of Miami and in two camps in the Immokalee agricultural area. Some 20,000 workers and their families--predominantly Mexican-American and black (including some 1,000 Haitian migrants)--live in each location during the growing season. The project will employ three nurse-practitioners who will train outreach workers and natural community helpers in the labor camps in maternal and child health care. The latter will try to serve all families in each camp through home visiting and evening and weekend group activities, including childbirth preparation classes, encouraging consideration of breast-feeding, infant weighing and otitis media* screening by parents, immunization clinics, and child-rearing classes.

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* A widespread, chronic ear infection.

The project's objectives are: (1) to increase community knowledge and acceptance of more modern health-care practices; (2) to create a group of well-trained natural leaders who will provide important knowledge to pregnant women and to the parents of infants and young children in their own neighborhoods; (3) to develop the RCMA child centers into a network for dissemination of health and child-rearing information to the migrant communities in which they are located; and (4) to create networks of existing organizations that share the objective of better health care for migrant families.

A farm worker health committee will be created in each camp to develop a permanent migrant parent group that will promote self-help activities and facilitate access to health services. If successful, the program will be replicated in other Florida migrant worker locations where RCMA is active.

Columbia University Center for Population and Family Health. This project will expand and strengthen the Center for Population and Family Health's outreach program in its surrounding Washington Heights community, composed primarily of recent immigrants from the Dominican Republic. This population accounts for a disproportionately high number of New York City's births as well as of its fetal and infant deaths. The program makes use of neighborhood women who serve as "health advocates," assisting their neighbors in obtaining health services and care. Special emphasis will be given to linking health-care expertise with more informed self-care efforts by women, particularly adolescent mothers, with attention to breast-feeding, early prenatal care, contraception, and better nutrition.

A neighborhood network of women who promote and support breast-feeding

will be established. Use of a home-based health record for mothers and children among a selected sample in the community will be tried as an instrument for increasing health knowledge, changing attitudes, and promoting self-care and the use of preventive health services. The program is expected to serve some 200 women and as many as 500 children. The center has special expertise in evaluating the effectiveness of maternal and child health programs and is developing specific measures of program effectiveness of this outreach program.

Center for Development of Non-Formal Education (CEDEN). CEDEN, a nonprofit group located in Austin, Texas, has successfully designed and tested an infant-development education program for Mexican American families in Austin. It is based on models originally supported by the Foundation in Latin America and is built around a home visiting program in which trained neighborhood women work with parents of infants to offer information on infant stimulation, health, and nutrition.

The Mexican American barrio of East Austin, Texas, is characterized by poverty, ethnic barriers to communication with service providers, low levels of literacy and education, and isolation from the larger society. These factors create stress that undermines parental confidence and causes deterioration of parental skills needed to help children develop normally. One effect of this deprived sociocultural, economic, and educational environment is substantially delayed infant development. Even very young infants entering the program were found to be significantly below the levels of physical, intellectual, and language development normal for their age.

The Foundation grant provides core support to broaden the center's

outreach, expanding its coverage from 113 to 145 families; the center will serve some 220 children during the nine-month period of the home visiting program, at a cost of about $30 per month per child. This compares with other early-childhood intervention programs in the area that average $125 to $330 per child per month. The grant will also enable CEDEN to develop training workshops for workers in other communities wishing to replicate the program, and to enrich the program's health and nutrition components. An important objective of Foundation support is to measure the extent to which the home visiting model is effective in improving the health and nutrition level of the children it serves, as well as their intellectual development. Local foundations support the service components of the center. The Levi Strauss Foundation is helping to finance replication of this program in Texas and the Southwest.

Child Welfare League of America (CWLA).* The Child Welfare League of America (CWLA) is a national social-service agency concerned with children and their families. The Minnesota Early Learning Design (MELD) Young Moms Program is a peer self-help approach to prenatal and child health, nutrition, and mental stimulation in group settings; it serves adolescent mothers aged thirteen to twenty.

With Foundation support, CWLA and MELD will undertake joint demonstration programs serving some 500 young mothers and their children in six cities. In each of the sites selected, young mothers-to-be will enter the

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* Grant co-sponsored by the Welfare and Teenage Pregnancy program

program in the third trimester of pregnancy to ensure proper prenatal care. The programs will include health counseling in areas such as personal hygiene, cessation of smoking, maternal nutrition, and breast- feeding, if appropriate, for older teenagers. In addition, building on the existing model (which now includes a separate child-care arrangement on agency premises while the young mothers are participating in their group sessions), individual attention will be given to the infants' medical, health, nutritional, and developmental needs.

The research design for the six-site experiment will include a comparison group in each site matched by such characteristics as mother's age, race, socioeconomic status, and infant's age. Program participants and nonparticipants and their babies will be assessed at the start of the program and at regular intervals thereafter. The program's impact on young mothers will be evaluated on the basis of such attainments as school continuation, acquisition of employment skills and job placement, and prevention of a subsequent pregnancy. Their children's status will be assessed using standardized measures of infant physical and mental development.

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Each program will develop criteria to measure program effectiveness in improving child health and development, will measure children in the program, and, where feasible, will compare those children to children outside the program. To provide overall evaluation and dissemination of results, the following grant was made.

<u>High Scope Educational Research Foundation</u>. High Scope will undertake three

principal and several subsidiary tasks. Its principal tasks are: (1) active collaboration with each of the local program sites as High Scope develops and implements its own evaluation process; (2) synthesis of the baseline, implementation, and outcome data emerging continuously from each program site to evaluate the assumptions and hypotheses the demonstration programs are testing; (3) design and implementation of a plan, in collaboration with Ford Foundation and program-site staff, to share the knowledge emerging from the demonstration programs with those involved in setting policies and making decisions that affect the well-being of young parents, infants, and young children.

The work of High Scope, in conjunction with the demonstration program, will help answer such questions as:

--What kinds of interventions and support mechanisms enhance pregnancy outcomes, health-care utilization, and childbearing behaviors of young, low-income parents? What kinds of interventions and support mechanisms enhance child-development outcomes for their children?

--What elements must community-based health-care efforts include to demonstrate measurable impact on maternal and child care, and on child development?

--What constitutes optimal self-care for families?

--What background and training will prove to be the most effective for the person who has primary contact with the family to be served?

--What are the costs and benefits of the program at each site? Which program components are the most cost-effective?

A special effort will be made to measure costs of the planned interventions. Cost-benefit analysis is the most effective means of

determining the usefulness of a given intervention and of attracting funding from other sources for program replication. A staff economist of High Scope will be involved in designing and testing cost-accounting systems and economic analyses for the several programs.

Special Programs Encouraging Consideration of Breast-feeding

The following two organizations received Foundation grants for work on breast-feeding among low-income women.

National Child Nutrition Project. The National Child Nutrition Project, a nationwide child-nutrition advocacy group, will undertake a demonstration project to encourage consideration of breast-feeding among low-income women in the United States. To increase the incidence and duration of breast-feeding, it will seek ways to remove hospital barriers to breast-feeding and to strengthen the prenatal and postnatal breast-feeding support network. A model program will be developed and tested at three hospitals that are generally representative of those serving low-income women in the United States. Those tentatively selected are City Hospital Center in Elmhurst, Queens, St. Joseph's Hospital in Patterson, New Jersey, and Hahnemann Medical College and Hospital in Philadelphia. Staff of the project will work with health providers to modify or eliminate hospital practices known to inhibit breast-feeding and to implement practices experimentally proven to increase breast-feeding success. An evaluation will determine if the proposed interventions increase the number of low-income women who are breast-feeding

when they leave the hospital and who continue to do so for at least three months. A cost-benefit analysis will be carried out for each hospital, including an analysis of the costs of outpatient visits made by mother and baby and a comparison of the number of such visits by breast-fed and bottle-fed infants. The program is designed for easy replication throughout the country. If it proves to be cost-effective, endorsements will be sought from such organizations as the American Academy of Pediatrics and the American Nurses Association, and information on the program will be disseminated widely to hospitals.

Population Council. The Population Council has designed a project to obtain baseline data and to test the feasibility of undertaking experimental interventions to encourage consideration of breast-feeding in two sites, one at a municipal hospital in New York and the other in a municipal hospital serving a poor community in Sao Paulo. Under the grant, surveys will be conducted to determine: (1) current practices of early infant feeding in the community, parents' prenatal and in-hospital decisions about breast-feeding, and early postpartum decisions about infant feeding; (2) the practices of the institutions involved and the content of their services as described by hospital officials and mothers who have received care; (3) the perceptions of the client population about ways to improve services and about the providers' attitudes toward breast-feeding; and (4) existing support networks in the community that are or could be used to encourage consideration of breast-feeding and to promote adequate infant care.

Based on information gathered on the study, the council will design and implement major demonstration programs at the two sites to test whether

modifying institutional arrangements to facilitate breast-feeding will have a lasting effect on child-rearing practices.

Policy Analysis, Dissemination, and Advocacy

The following two organizations received Foundation grants for policy analysis, dissemination, and advocacy efforts under the Child Survival/Fair Start program.

University of North Carolina. The Foundation has given partial support for a project to test the feasibility of collecting and monitoring data on critical indicators of child-health outcomes as affected by federal budget cuts. Evidence abounds that child-health services are being cut back as federal funds diminish. The difficult task is to determine whether such cuts in services have measurable, immediate effects on children's health. Preliminary results suggest that this effort is feasible. Plans are going forward to establish a National Child Health Council bringing together advocacy, research, and policy analysis groups to monitor the effects on child health of changes in government funding of health-care programs.

Food Research and Action Center. A grant to the Food Research and Action Center (FRAC), a Washington-based child-nutrition advocacy organization, will fund a staff member who will provide timely information on the WIC Program (Special Supplemental Food Program for Women, Infants, and Children) to local community groups and to WIC program administrators, and who will monitor the

status of WIC at the federal level. WIC is a federally funded program of proven effectiveness in reducing the incidence of low birth weight and in improving the development of infants in low-income families. A Harvard study recently concluded that for every dollar spent on WIC food supplementation for the high-risk pregnant woman, three dollars are saved in immediate health-care costs, with increasing dollar benefits over the long term. Although WIC funding continues at approximately $1 billion a year--despite attempts to cut its budget and fold it into block grants--local administrators of WIC programs, operating in a state of uncertainty, often reduce unnecessarily the number of clients they serve because of changing regulations and the failure of federal agencies to allocate available funds on schedule. The grant to FRAC will enable it to provide reliable information in an effort to maintain WIC operations at an optimum level.

MAJOR ACTIONS UNDER CHILD SURVIVAL/A FAIR START FOR CHILDREN, DEVELOPING COUNTRY PROGRAMS, FY 1982

The following grants and delegated-authority projects (DAPs), sponsored by the Foundation's Developing Country Programs staff in the New York headquarters and in field offices around the world, were approved during FY 1982.

Dhaka Field Office

Institute of Nutrition and Food Science, University of Dhaka. Undernutrition is one of the most prevalent and pernicious manifestations of poverty in Bangladesh; approximately 16 percent of children from birth to age five suffer both acute and chronic malnutrition. The University of Dhaka's Institute of Nutrition and Food Science is Bangladesh's major institution concerned with understanding and coping with that country's nutrition problems. With Foundation funding, it will complete and evaluate an ambitious, experimental, village-based program designed to determine what kinds of interventions are most effective in coping with malnutrition. Three experimental areas will be provided with differing mixes of services, including nutrition education, deworming, and rehabilitation of third-degree-malnourished children. The institute will undertake regular monitoring and evaluation of the different approaches, including analysis of the costs involved, to determine the feasibility of nationwide adoption of selected interventions.

The Foundation's grant will also help finance an analysis of the 1981 Bangladesh National Nutrition Survey, which analysis will pay special attention to sex differentials in levels of nutrition and to breast-feeding and weaning practices.

Delhi Field Office

Naujhil Integrated Rural Project for Health and Development (NIRPHAD). NIRPHAD is a private, voluntary organization providing community-based maternal and child health services in thirty villages in Uttar Pradesh, India's largest and one of its poorest states, with an infant mortality rate of nearly 200 per 1,000 live births. NIRPHAD's strategy is to work simultaneously on health and socioeconomic development.

NIRPHAD is using the Foundation's grant to strengthen its village-based maternal and child health efforts and to integrate them with continuing development activities. A package of maternal and child health services has been developed, with the trained dai (midwife) as the key implementing figure. These traditional birth attendants will be trained and positioned in each of thirty villages to function as primary child-care workers and to interact with multipurpose workers trained for agricultural extension and animal husbandry work and with paramedical workers engaged in immunization, disinfecting of wells, health education, etc. It is hoped that income-generating activities sponsored by NIRPHAD will subsidize a large portion of the additional child-health services it plans to provide.

Rural Unit for Health and Social Affairs (RUHSA) of the Christian Medical College, Vellore. The Rural Unit for Health and Social Affairs of the Christian Medical College in Vellore has been conducting a health and grass-roots development program in a community block with a population of 100,000 and has developed a three-tiered health system for women and children that provides prenatal and maternity services, under-five health care,

low-cost curative care, family planning, and special disease services through "family care volunteers" at the village level. Two well-equipped and staffed health centers are maintained. On the economic side, RUHSA has trained village volunteers to provide agricultural extension and animal husbandry services. RUHSA has also begun women's industrial centers to develop income-generating opportunities.

With Foundation funding, RUHSA will develop special educational and vocational training programs for women in the population it serves. The overall goal of the program is to improve the health and nutritional status of families; its intermediate objective is to raise the awareness of women as to their potential for social and economic advancement, to increase their knowledge of ways to improve family health and welfare, and to provide vocational training for income-generating activities.

The Nutrition Foundation of India. The Nutrition Foundation of India, directed by one of the world's leading experts on nutrition, Dr. C. Gopalan, will be assisted in expanding its program of communication, information, and publication directed to the improvement of children's nutrition in India. The foundation will undertake a study of how some poor families are able to achieve levels of nutrition for their children considerably higher than would be expected on the basis of their socioeconomic situation. The study will focus on rural Harijan (untouchable) communities in several regions of India.

The foundation will also conduct an annual workshop, drawing together a select group of national and international experts for in-depth discussion of nutrition problems of current interest and policy relevance, such as the impact of urbanization, industrialization, and related social changes on

nutrition. It will issue reports on studies completed or in progress. One such study, which examined the use of infant weaning foods in three major urban areas, has already provided relevant information about government and industry practices on infant feeding.

Jakarta Field Office

Delegated-Authority Project to promote child survival and early child development in rural and urban areas of Indonesia. While infant mortality in Indonesia declined from 140 to 105 per 1,000 live births during the past decade, infant mortality in other developing countries with similar per capita incomes is in the 60-to-80 range. There are wide differences in infant mortality within Indonesia according to social class and education of the mother. Some 30 percent of children under five are malnourished; improper breast-feeding and weaning practices and deficiencies of iodine, iron, and Vitamin A are endemic. Among older infants the major causes of death are respiratory and diarrheal disease.

Indonesia has made major efforts to provide nationwide primary health care by fielding masses of volunteer primary-health-care workers and through an infant-nutrition program covering thousands of villages. Under the latter, mothers get together each month for baby weighing, nutrition instruction, and free food supplements. Neither program is regarded as a success because of the poor level of training and supervision of the field workers responsible for implementing the programs. Furthermore, most of Indonesia's population is wedded to traditional health systems rather than to the Western model, and no attempt has been made to consider how that Western model could complement existing systems.

Based on these observations, Dr. Henry Mosley, a distinguished epidemiologist who is a former director of the International Center for Diarrheal Disease Research, Bangladesh, and who is now on the Foundation's Jakarta staff, has developed a strategy for a Foundation-supported child-survival program to include:

--community-based action research programs that will seek ways of bridging the gap between traditional and Western health care;

--epidemiological research coupled with sociological and anthropological studies to define not only the clinical causes of sickness and death but the social and cultural determinants that must be considered if better health is to be achieved;

--evaluation of specific interventions, such as Vitamin A supplements, that can be applied at the community and household level to reduce mortality;

--promotion of communication among investigators, donor agencies, and government policy makers to help focus research and determine priorities for intervention strategies.

A number of specific projects in each category are under development.

Cairo Field Office

Delegated-Authority Project to support Child Survival activities in the Middle East. Despite high per capita incomes in many Middle Eastern countries and impressive ratios of physicians and hospitals to population, infant mortality remains exceedingly high; 150 deaths per 1,000 in crowded, poor neighborhoods of Cairo, for example, with an Egyptian national average of 120 per 1,000.

The Cairo office is adopting a strategy directed to reducing infant mortality that will focus on the health of mothers and on their access to information about child care. An effort will be made to introduce simple, new techniques that parents can use, without expert help, as supplements to good traditional practices.

Under this DAP, the Cairo office will work with the medical establishment--physicians, ministries, and medical schools--to encourage more attention to the processes leading to ill health in children. At the same time, support will be extended to creative, community-based programs that enable people to address their own health-care needs more effectively. For example, the Faculty of Medicine of the University of Gezira in the Sudan, unique in its focus on rural community medicine, will be assisted in studying what mothers do and do not do to keep their children alive and well. Such research is regarded as a necessary antecedent to experimental community-health programs.

Project funds will support the development and dissemination of simple, inexpensive, yet effective preventive and curative measures that can be implemented by families, or at least by the lowest-level health workers. For instance, a hospital in Khartoum will be helped to experiment with the distribution of locally made oral rehydration solutions and with simple treatments for pneumonia.

Finally, the DAP will support experiments in dissemination of child-care messages ranging from educational television programs to a school "health scout" program. The latter uses older children, enrolled in secondary schools, to reach mothers with simple messages on the care of the children's younger siblings.

Lagos Field Office

National Postgraduate Medical School, Lagos, Nigeria. Since 1975, the Foundation has actively promoted community-oriented primary health care directed to mothers and children through its support of the Institute of Child Health and Primary Care of the University of Lagos. One lesson derived from this program, which emphasizes the training of auxiliary health workers, is that physicians whose medical school training is oriented toward disease specialization also need orientation in community approaches to health care if they are to be effective leaders of health teams. Under the grant to the National Postgraduate Medical School, a training program for medical residents has been developed that focuses on the health needs of infants, children under five, and women of reproductive age. Students will be taught ways of helping local communities take a more active part in promoting and financing health services and will be trained in the cost-effective use of scarce medical resources. The residents will get field experience at secondary-care centers that backstop primary health care programs in remote rural areas under the umbrella of the Christian Health Association of Nigeria.

Caribbean Program

Columbia University, support for research and exchange activities on diarrheal infant mortality in Cuba. During the past fifteen years, Cuba has achieved significant improvements in the health status of its population, with major reductions in infant mortality. Diarrheal infant mortality, for example, decreased by 67 percent during that period, and Cuba is one of the few

countries in Latin America where gastroenteritis and respiratory infection no longer are the leading causes of infant mortality. These improvements have resulted from a substantial expansion of government health programs as well as from a number of broader social improvements including greatly expanded education, better nutrition, and increased community participation in health-related activities. Because the Cuban system depends heavily on doctors and hospitals, some skepticism exists regarding the transferability of the Cuban model to other developing countries.

The grant to Columbia University will help finance a joint investigation of the factors causing the fall in infant diarrheal deaths, carried out by faculty members of Columbia's Center for Population and Family Health and staff of the Institute of Health Development of the Cuban Ministry of Health. The study seeks to measure the relative contributions of medical and social interventions and changes to the decline of postneonatal diarrheal mortality between 1969 and 1978 in eight provinces of Cuba. Special attention will be given to measuring the costs of the interventions to determine their replicability in other poor countries.

The study affords a rare opportunity to document Cuban experience in the delivery of health-care services and thereby to enhance world understanding of the Cuban approach to development. It constitutes an extraordinary opening in exchange activities between Cuba and the United States.

Lima Field Office

Enterprise for Development Cooperation (EMCODES). This grant is helping to finance three multipurpose community centers for child-care development in the

Cauca Valley of Colombia, centers sponsored by Enterprise for Development Cooperation, a private development-assistance institution. These "children's houses" will offer preschool intellectual stimulation and nutritional supplementation programs in the mornings, and primary schoolers will obtain nonformal educational reinforcement and homework assistance in the afternoons. Educational activities for children will emphasize language, basic social skills, and creativity. These activities will be based on prevailing life situations and will make extensive use of Afro-Colombian cultural materials.

An evaluation of the "children's house" experience, focusing on its cost structure and its impact on children, their families, and their communities, will be conducted by EMCODES staff. An effort will be made to measure improvements in language ability, play behavior, and social cooperation.

Rio Field Office

Residents' Association of the New Hope Barrio, Salvador; Residents' Association of Plataforma, Salvador; Mitre of the Archdiocese of Sao Paulo; Pontifical Catholic University of Sao Paulo; Children's House of Olinda. As part of its focus on community development, the Rio office made a number of seed-money grants directed to the objectives of the Child Survival/Fair Start program. These include an award to the Residents' Association of Plataforma, a poor suburban barrio of 30,000 inhabitants that lacks virtually all urban services. A lack of adequate child-care facilities in preschool programs seriously limits the employment opportunities of women with young children. The Foundation grant has helped to establish a community kindergarten-creche now attended by 200 children two to six years old. Foundation grant funds

will help provide the services of a pediatrician-child psychologist and two specialists in infant education to add health and intellectual stimulation components to the day-care experience.

A grant to the Archdiocese of Sao Paulo will partially support an innovative community preschool education and mental health project that provides services to poor women and children in a disadvantaged neighborhood of that city. Its program involves community parents directly in the problems of the education of their children. It operates under the guidance of a group of psychologists who have diagnosed the acute social and emotional problems affecting families in a neighborhood hard hit by rising levels of unemployment.

A grant to the Catholic University of Sao Paulo supports a pilot project in which university social psychology faculty members collaborate with residents' associations in poor communities on efforts to deal with the psychological difficulties of mothers and their children. Priority is given to group treatment in order to make mental health care accessible to disadvantaged families.

Olinda is one of the poorest and most rapidly growing towns in the metropolitan area of Recife, in northeast Brazil. Its people suffer high levels of infant mortality and malnutrition and are subject to an array of serious diseases attended by severely limited health services. The Foundation's grant provides support for the extension of clinical health services in six poor neighborhoods with an emphasis on the care of pregnant women, of nursing mothers, and of young children. It features a system of preventive community health care involving a network of paramedical workers drawn from the community to provide elementary health services, immunization, and first-aid treatment.